

Claims

- [c1] An interrupt for an automatic traction control system, comprising:
- a park brake control valve for controlling a park brake of a vehicle as a function of a park brake control pressure signal;
 - a service brake control valve for controlling a service brake as a function of a service brake control pressure signal; and
 - a traction control valve communicating the service brake control pressure signal to the service brake control valve as a function of the park brake control pressure signal.
- [c2] The interrupt as set forth in claim wherein the park brake control pressure signal is communicated as the service brake control pressure signal when a traction event occurs.
- [c3] The interrupt as set forth in claim wherein:
- the park brake is engaged when the park brake control pressure signal is less than an engage pressure level; and
 - the park brake is released when the park brake control pressure signal is greater than a release pressure level.

- [c4] The interrupt as set forth in claim further including:
an electronic control unit transmitting an electronic control signal to the traction control valve as a function of whether a traction event is occurring, the park brake control pressure signal being communicated as the service brake control pressure signal as a function of the electronic control signal.
- [c5] The interrupt as set forth in claim further including:
a wheel speed sensor communicating a speed of a wheel to the electronic control unit, the electronic control unit determining whether the traction event is occurring as a function of the wheel speed.
- [c6] The interrupt as set forth in claim wherein:
the traction control valve includes a solenoid;
the traction control valve communicates the park brake control pressure signal to the service brake control valve as a function of a position of the solenoid; and
the solenoid is positioned as a function of the electronic control signal.
- [c7] The interrupt as set forth in claim further including:
a pressure switch communicating with the park brake control pressure signal; and
an electrical switch, set as a function of the pressure

switch, electrically communicating with the electronic control unit, a status of the electronic control unit being controlled via an electronic control signal transmitted from the electrical switch.

- [c8] The interrupt as set forth in claim further including:
a pressure switch communicating with the park brake control pressure signal; and
an electrical switch, set as a function of the pressure switch, electrically communicating with the electronic control unit and the traction control valve, the electronic control signal being transmitted from the electronic control unit to the traction control valve when the switch is closed.
- [c9] The interrupt as set forth in claim wherein an electronic control signal, which is substantially equivalent to an electronic signal transmitted to the traction control valve when the traction event is not occurring, is sensed by the electronic control unit when the switch is open.
- [c10] The interrupt as set forth in claim further including:
a pressure switch communicating with the park brake control pressure signal; and
an electrical switch, set as a function of the pressure switch, electrically communicating with an electronic control unit and a stop lamp, a status of the electronic

control unit being controlled via an electronic control signal transmitted from the electrical switch.

- [c11] The interrupt as set forth in claim further including:
a pressure protection valve communicating with the traction control valve and the park brake control valve;
a check valve exhausting pressurized air from the traction control valve;
wherein the pressure protection valve opens when the park brake control pressure signal is above a predetermined level for communicating the park brake control pressure signal to the traction control valve;
wherein the pressure protection valve closes when the park brake control pressure signal is below a predetermined level; and
wherein pressurized air between the pressure protection valve and the traction control valve is exhausted via the check valve when the pressure protection valve is closed.
- [c12] The interrupt as set forth in claim wherein the park brake control valve is a spring relay valve.
- [c13] The interrupt as set forth in claim wherein the park brake control valve is a quick release valve.
- [c14] A traction control valve, comprising:
a first pressure input port communicating with a park

brake control pressure signal;
a second pressure input port communicating with an operator controlled pressure output;
a control port receiving a control signal from an external control unit as a function of an occurrence of a traction event; and
a pressure output port communicating with one of the first and second pressure input ports as a function of the control signal.

[c15] The traction control valve as set forth in claim wherein the operator controlled pressure output is a treadle valve.

[c16] The traction control valve as set forth in claim wherein: the pressure output port communicates with the first pressure input port when the traction event is occurring; and
the pressure output port communicates with the second pressure input port when the traction event is not occurring.

[c17] The traction control valve as set forth in claim wherein the control signal is an electronic signal.

[c18] The traction control valve as set forth in claim further including:

wherein the external control unit is electrically controlled as a function of the park brake control pressure signal.

[c19] The traction control valve as set forth in claim further including:

a solenoid being selectively set to one of a plurality of positions, the pressure output port communicating with one of the first and second pressure input ports as a function of the position of the solenoid.

[c20] A method for interrupting an automatic traction control system, comprising:

controlling a park brake of a vehicle as a function of a park brake control pressure signal applied to a park brake control valve;

controlling a service brake as a function of a service brake control pressure signal applied to a service brake control valve;

communicating the service brake control pressure signal from a traction control valve to the service brake control valve; and

interrupting the traction control system during a traction event as a function of the park brake control signal.

[c21] The method for interrupting an automatic traction control system as set forth in claim wherein the interrupting includes:

communicating the park brake control pressure signal as the service brake control pressure signal, the traction event being interrupted if the park brake control pressure signal is below a predetermined level.

[c22] The method for interrupting an automatic traction control system as set forth in claim wherein the interrupting includes:

if the park brake control pressure signal is below a predetermined level, opening an electrical switch between the traction control valve and an electronic control unit for preventing an automatic traction control signal from being transmitted from the electronic control unit to the traction control unit.

[c23] The method for interrupting an automatic traction control system as set forth in claim further including:

if the electrical switch is open, receiving a signal in the electronic control unit that is substantially equivalent to an electronic signal transmitted from the traction control valve when the traction event is not occurring.

[c24] The method for interrupting an automatic traction control system as set forth in claim wherein the traction control valve includes a solenoid selectively set between a plurality of positions, the method further including:

when the traction event is occurring, setting the solenoid

to a traction position for communicating the park brake control pressure signal from the traction control valve to the service brake control valve; and
when the traction event is not occurring, setting the solenoid to a non-traction position for communicating an operator controlled pressure signal from the traction control valve to the service brake control valve.

[c25] The method for interrupting an automatic traction control system as set forth in claim further including, during the traction event:
opening a pressure protection valve; and
communicating the park brake control pressure signal from the traction control valve to the service brake control valve via the pressure protection valve.

[c26] The method for interrupting an automatic traction control system as set forth in claim further including, when the traction event is not occurring:
closing the pressure protection valve; and
exhausting pressure between the traction control valve and the pressure protection valve via a check valve.